

Remarks

Claims 20 to 24, 26 to 29, 31 and 32 remain in this application.

Reconsideration of the rejection of the claims is requested.

Claims 20, 21, 22 and 30 have been rejected as being unpatentable over the admitted prior art, namely JP '125 and JP '8184, in view of Weiss. Issue is taken in this respect.

JP '125 shows an arrangement with a conveyor belt that is driven in a step wise manner in order to build a group of laps in coaxially equi-spaced apart relation.

JP '8184 shows a trough plate which is employed in a rotating and lifting device to move a wound lap to a pair of gripper arms 7 as indicated in Fig. 3.

There is no teaching in JP '8184 that the described apparatus may be used to build a lap group as claimed. Accordingly, it would not be obvious to one of ordinary skill in the art to look to the teachings of JP '81884 for a teaching to modify the apparatus of JP '125.

The Examiner alleges that it would be obvious to provide the JP '125 apparatus with a trough plate as taught by JP '8184 to rotate the rolls to the desired orientation and lift the rolls to the desired position before the rolls are handled by the conveying belts. However, as noted by applicant in the description at page 2, the arrangement of JP'8184 is highly complex and is not suitable to form a group of wound laps with aligned lap ends.

Further, there is no teaching in either JP '125 or JP '8184 of locating a means between a preparatory machine for sequentially delivering wound laps and a conveying belt disposed transversely of the preparatory machine "for sequentially rotating each wound lap 180° . . . and conveying each wound lap from said preparatory machine onto said conveying belt in coaxially equally-spaced apart relation". Note that in JP '8184 that there

is no means provided for spacing a plurality of wound rolls. Only one roll is being processed. For this additional reason, it is submitted that one of ordinary skill in the art would not look to JP '8184 for a teaching to motivate one of ordinary skill in the art to modify the structure of JP '125 with a "means. . . for sequentially rotating each wound lap 180° . . . and conveying each wound lap from said preparatory machine onto said conveying belt in coaxially equally spaced apart relation" as claimed in claim 20.

Weiss does not show a preparatory machine for sequentially delivering wound laps to a conveying belt disposed transversally of that machine. The delivering source of the laps (webs) is not shown. Weiss does not show a combination wherein a lap winding machine delivers wound laps directly to a conveyor belt to build a group of laps in coaxially equi-spaced apart relation.

Weiss shows a strand 1 with several bearing brackets 2, each holding a web. The several webs are unwound simultaneously from the web rolls. For reloading of the strand 1 with web rolls, a scissors table 6 is provided which raises a plurality of web rolls at one time to the levels of brackets 2. The web rolls for reloading the strand 1 are brought up on an endless conveyor belt 7 which is provided with holding cribs 8 that are spaced apart the same distance as the bearing brackets 2 and are of such construction that they fix the individual web rolls in their axial and angular positions as they are being moved. As described at column 3/lines 34 to 38, the webs will be transferred from an aligning apparatus 10 over a discharge ramp 11 to the conveyor belt 7. There is no description as to how the web rolls come into the exact position of the holding cribs 8. As the holding cribs 8 are spaced part in the same distance on the belt 7, there is no need to move the conveyor belt in an exact stepwise manner for storing the transferred webs on the conveyor

belt. In order to transfer two new webs to the bearing brackets 2 of the strand 1, the holding cribs 8 must have the same distance as the distance between the bearing brackets 2.

Weiss does not provide any teaching that would motivate one of ordinary skill in the art to move a conveyor belt in an exact stepwise manner to build a group of laps with the same axial distance between the laps.

Weiss further shows a conveying means 28 with a conveyor belt 32 which transfers webs lengthwise. To move these webs in a required position for the conveyor belt 7, a turntable 27 is provided for rotating the web roll at right angles to its longitudinal axis. This shows only an arrangement to transfer web rolls from one transport system to the other with means to correct the orientation of the axis of the web rolls. Weiss does not provide any teaching that would motivate one of ordinary skill in the art to use that arrangement to change the unwind direction of laps as claimed.

JP '8184 does not give any teaching that would motivate one of ordinary skill in the art to use that arrangement to change the unwind direction. By moving of the plate 10 in a vertical direction, the plate 10 will automatically rotate in a horizontal plane through the vertical movement of the pin 14 guided inside a curved slot 11. Claim 20 claims an arrangement whereby the laps are moved in a substantially constant level i.e. "rotating. . . in a plane of said longitudinal axis thereof". The arrangement of JP '8184 is prepared to transfer the lap from a first level to a second higher level in combination with rotating the lap about 90°.

In view of the above, a rejection of claims 20 to 22 and 30 as being unpatentable over the admitted prior art in view of Weiss is not warranted pursuant to the provisions of 35 USC 103.

Claim 22 depends from claim 21 and requires that each wound lap be moved "transversely of said axis before and after said step of rotating said wound lap". This step permits the lap to be lifted from the surface of the conveyor belt for rotation without contact between the lap and the conveyor belt. This enables rotation of the lap without damage to the lap surface during rotation.

Neither the admitted prior art nor Weiss describes or teaches such a step.

In Lindstaedt, use is made of a turntable 262 attached to the top of a vertical hydraulic jack 27 (see column 3, lines 64 to 68). In order to rotate a reel 14 through 90°, the turntable 262 is lifted via the jack 27 above the level of the adjacent platforms 28, 29 (see column 4, lines 1 to 7). With the reel in the elevated position, as many of the outer windings of the paper as may have been damaged are removed. (See column 4, lines 9 to 12). Lindstaedt indicates that the reel 14 could also be turned through 180° manually or by any desired powered means to insure that the web pull-off will occur in the desired direction. (See column 4, lines 21 to 25). There is no teaching in Lindstaedt of the step recited in claim 23 wherein a reel is lifted from a conveyor belt prior to being rotated and deposited onto the conveyor belt after rotation. Accordingly, the proposed modification of the admitted prior art structures with the teachings of Lindstaedt would not result in the claimed process. Accordingly, the rejection of claim 23 is not warranted pursuant to the provisions of 35 USC 103.

Claims 24, 27, 29 and 31 have been rejected as being unpatentable over the admitted prior art in view of Weiss and Böehm. Issue is taken in this respect.

As previously noted in the Amendment filed June 9, 2003, Böehm only shows a coil unloader for accumulation or storing a group or bank of coils. There are several handling arms prepared to receive several coils for accumulation. There is no teachings in Böehm to use such an arrangement to transfer a single picked up coil to another transport system (i.e. a conveyor belt) with rotation through 180°.

Further, there is no teaching to eliminate the ramp 62, because the ramp 62 is an essential feature for the main function of the arrangement of Böehm. In view of the special function of the coil unloader of Böehm, there is no teaching to motivate one of ordinary skill in the art to use such an arrangement in combination with the arrangement of Weiss (no overhead system). Accordingly, a rejection of claim 24 as being unpatentable over the admitted prior art in view of Weiss and Böehm is not warranted pursuant to the provisions of 35 USC 103.

Claims 26, 27 and 29 depend from claim 24 and are believed to be allowable for similar reasons.

Claims 31 and 32 depend from claim 20 and are believed to be allowable for similar reasons.

Claims 26 and 32 have been rejected as being unpatentable over the admitted prior art in view of Weiss, Böehm and JP61-145082. Issue is taken in this respect.

JP-61-145082 shows an overhead transport system to transfer a group of laps from a lap winding machine to the combing machines. The lifting device of that transport system has the task to transfer a group of laps from a first storage level at the lap winding machine

to a transport level, respectively from the transport level to a storage level at the combing machines. To pick up the laps and to deliver the laps, the shafts 21 are moved in a horizontal plane. The shafts 21 are fixed and not pivot mounted.

In view of the above, a rejection of claims 26 and 32 is not warranted pursuant to the provisions of 35 USC 103. The application is believed to be in condition for allowance and such is respectfully requested.

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